

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) Device for measuring or evaluating the relative parallel offset and angular offset position of two elements with respect to each other, comprising:

- a collimated light source means for producing at least one light beam connected to a first of the two elements at a known coordinate location;
- a first two-dimensionally readable optoelectronic sensor and at least one second two-dimensionally readable optoelectronic sensor connected to a second of the two elements each of which are in a fixed relative alignment with respect to each other at a known coordinate location such that a portion of said at least one light beam incident on a surface of an optoelectronically active layer of the first optoelectronic sensor is reflected by the surface of the optoelectronically active layer as a directly light beam directly onto a surface of the at least one second two-dimensionally readable optoelectronic sensor;
- electronic means for receiving output signals from each of the optoelectronic sensors representing the coordinates at which the at least one light beam and reflected portion of the at least one light beam are detected on each respective sensor of the optoelectronic sensors, processing the signals, and computing the relative position of the light source means relative to the incidences of the at least one light beam on the surfaces of the two-dimensionally readable optoelectronic sensors based on the coordinates detected relative to coordinates at which the at least one light beam would be detected if the parallel and angular offsets of the elements are zero.

2. (Canceled)

3. (Currently Amended) Device for measuring or evaluating the relative parallel offset and angular offset position of two elements with respect to each other, comprising:

- a collimated light source for producing at least one light beam connected to a first of the two elements at a known coordinate location;
- a first two-dimensionally readable optoelectronic sensor and at least one second two-dimensionally readable optoelectronic sensor;
- a housing, connected to a second of the two elements at a known coordinate location, in which the first and second two-dimensionally readable optoelectronic sensors are positioned relative to one another at a known coordinate location with respect to said housing such that a portion of the light beam incident on the first two-dimensionally readable optoelectronic sensor is reflected as a plurality of light beams in a folded beam path by a surface of an optoelectronically active layer of the first optoelectronic sensor directly onto the second two-dimensionally readable optoelectronic sensor;
- electronic means for receiving output signals from the optoelectronic sensors, processing the signals representing the coordinates at which the at least one light beam and reflected portion of the at least one light beam are detected on each respective sensor of the optoelectronic sensors, and computing the relative parallel offset and angular offset position of the housing relative to the light source based on the coordinates of incidences of the at least one masked light beam on the surfaces of the two-dimensionally readable optoelectronic sensors detected relative to coordinates at which the at least one light beam would be detected if the parallel and angular offsets of the elements are zero.

4. (Currently Amended) Device for measuring or evaluating the relative parallel offset and angular offset position of two elements with respect to each other, comprising:

- a collimated light source means for producing at least one light beam at a known coordinate location;
- a first two-dimensionally readable optoelectronic sensor;
- at least one second two-dimensionally readable optoelectronic sensor in a fixed relative alignment with respect to the first two-dimensionally readable optoelectronic sensor at a known coordinate location such that the at least one light beam from the light source means is incident on a surface of an optoelectronically active layer of the first two-dimensionally readable optoelectronic sensor and a portion of the at least one light beam is reflected by the surface of the optoelectronically active layer ~~directly~~ as [[a]] at least one light beam directly onto a surface of the at least one second two-dimensionally readable optoelectronic sensor;
- electronic means for receiving output signals from each of the optoelectronic sensors, processing the signals representing the coordinates at which the at least one light beam and reflected portion of the at least one light beam are detected on each respective sensor of the optoelectronic sensors, and computing the relative position of the light source means relative to the incidences of the at least one light beam on the surfaces of the two-dimensionally readable optoelectronic sensors based on the coordinates detected relative to coordinates at which the at least one light beam would be detected if the parallel and angular offsets of the elements are zero.